

Title (en)

Optical transmission system using dispersion compensating fibers

Title (de)

Optisches Übertragungssystem mit dispersionskompensierenden Fasern

Title (fr)

Système de transmission optique utilisant des fibres à compensation de dispersion

Publication

EP 1298821 A3 20060621 (EN)

Application

EP 02256505 A 20020919

Priority

JP 2001299582 A 20010928

Abstract (en)

[origin: EP1298821A2] The present invention provides an optical transmission system that enables high-speed transmission of 40 Gb/s with low residual dispersion while maintaining the yield of a dispersion compensating fiber. In the present invention, the dispersion compensating fiber is connected to each span of an optical fiber for transmission. One set of an optical transmission path is formed by this optical fiber for transmission and the dispersion compensating fiber, and this one set of optical transmission path is connected in multiple stages and connected to a transmitter and a receiver. By setting the conditions of dispersion compensation in each span comparatively leniently, managing the residual dispersion of each transmission span, and suitably arranging each transmission span, an optical transmission system is composed in which adequate dispersion compensation is performed over the entire optical transmission path.

IPC 8 full level

G02B 6/036 (2006.01); **G02B 6/34** (2006.01); **H04B 10/2525** (2013.01)

CPC (source: EP US)

G02B 6/02261 (2013.01 - EP US); **G02B 6/0228** (2013.01 - EP US); **G02B 6/03644** (2013.01 - EP US); **H04B 10/25253** (2013.01 - EP US); **G02B 6/02004** (2013.01 - EP US); **G02B 6/29377** (2013.01 - EP US)

Citation (search report)

- [XY] WO 0122134 A1 20010329 - SUMITOMO ELECTRIC INDUSTRIES [JP]
- [Y] EP 1000909 A2 20000517 - HERAEUS QUARZGLAS [DE]
- [A] EP 1109039 A2 20010620 - SUMITOMO ELECTRIC INDUSTRIES [JP] & EP 1243948 A1 20020925 - SUMITOMO ELECTRIC INDUSTRIES [JP]
- [X] MURAKAMI M ET AL: "Quarter terabit (25*10 Gb/s) over 9288 km WDM transmission experiment using nonlinear supported RZ pulse in higher order fiber dispersion managed line", 24TH EUROPEAN CONFERENCE ON OPTICAL COMMUNICATION. ECOC '98 (IEEE CAT. NO.98TH8398) TELEFONICA MADRID, SPAIN, vol. 3, 1998, pages 79 - 81 vol.3, XP002345951, ISBN: 84-89900-14-0
- [X] SEGATTO M E V ET AL: "Use of dispersion managed fibers in parallel WDM systems", MICROWAVE AND OPTOELECTRONICS CONFERENCE, 1999. SBMO/IEEE MTT-S, APS AND LEOS - IMOC '99. INTERNATIONAL AUGUST 09-12, 1999, PISCATAWAY, NJ, USA, IEEE, vol. 1, 9 August 1999 (1999-08-09), pages 75 - 78, XP010510956, ISBN: 0-7803-5807-4

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